simple extension. A hypersensitive point was discovered by pressure on the ulnar notch.

"I asked her to report at the surgical department of the Polyclinic for examination of her arm, in order to secure a verification of my opinion that there had never been a dislocation. July 3d, she called on Dr. Steinbach with her forearm again rigidly flexed upon the arm. Dr. S., unaware of her history, yet recognized the nature of her trouble, and finding himself unable to overcome the spasm of the biceps, which he describes as extreme, the tendons standing out like whipcords, proposed to give her ether. She declined to take the anæsthetic, and came to my brother's office during my absence. He applied the wooden magnet to the biceps, and the spasm relaxed at once."

NEURO-RETINITIS, WITH ALMOST SUDDEN LOSS OF SIGHT IN BOTH EYES.

BY H. KNAPP, M.D.,
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DURING the last year two cases of almost sudden loss of sight in both eyes, with the picture of optic neuritis, came under my observation. In the one the blindness remained permanent, with the exception of a small island in the visual field of the right eye; in the other case, sight was perfectly restored in both eyes. The blindness in both cases was binocular and absolute, with complete immobility of the pupils on changes of light, in the first case for several months, in the second for three days. There is nothing very unusual in the recovery of sight after neuro-retinitis from meningitis and other diseases, much less unusual is the permanence of blindness after neuro-retinitis; but total blindness occurring in the course of several hours, being accompanied by nothing but choked disc—constitutional diseases, such as albuminuria, diabetes, syphilis and the like being absent—is certainly very rare. In my own practice I do not, at this moment, recollect

any other cases, and the literature on the subject is so meagre[1] that the communication of the above mentioned cases may not be without interest to the members of this Society and the readers of our transactions. The cases were as follows:

CASE I.—N. St., aged forty, of New York, a gentleman strong, healthy, and temperate all his life, with no constitutional disorder, married, having three healthy children, suffered on May 5, 1883, intense headache and nausea. In the evening he noticed that his sight became dim. He slept well during the night, but when he awoke the next morning he found that he was totally blind in both eyes. His family physician, Dr. Wiener, called me in consultation in the afternoon of the same day, May 6th. I found the patient free from pain and fever, his sensorium undisturbed, his appetite good, his general condition excellent, no abnormity of motion or sensation in any part of his body, but he had passed no water during the whole day. Percussion showed an empty bladder, and catheterization voided only about fifteen grms. of urine. The external appearance of his eyes showed nothing abnormal, except wide pupils, which were perfectly irresponsive to light. No perception of light in any part of the visual field in either eye. Mobility and tension of both, normal. The media perfectly clear. The anterior chambers of ordinary depth. In both eyes the well marked picture of choked disc, with slight whitish opacity of the adjacent retina. The retinal veins rather large and tortuous, the arteries small, not pulsating on pressure upon the globe. No hemorrhages, no white patches in the fundus.

The sudden blindness, preceded by headache and nausea, the neuro-retinitis and the suppression of urine, seemed to warrant the diagnosis of an uræmic attack, though the tests for albumen and sugar in the small quantity of urine were negative.

We ordered salicylate of soda in 0.60 capsules, one to be

[1] Compare THEO. LEBER, in Græfe-Sæmisch's Handbuch, vol. v. pp. 813-816: Acute Neuritis, without assignable cause or of rheumatic origin.

A. V. GRÆFE: Über Neuro-retinitis u. gewisse Fälle fulminirender Erblindung.—Græfe's Arch. Bd. xii., Abth 2, p. 114.

taken every quarter of an hour until profuse perspiration occurred, which was to be kept up for two hours by drinking hot tea. He took four capsules, and perspired freely.

The next day, May 7th, the patient felt better. The urine had still to be taken by the catheter, and was no more in quantity than about thirty grms., containing neither albumen nor sugar, and was free from casts. Choked disc as distinctly marked as in cases of cerebral tumor; arteries small, not pulsating on pressure; veins large, very dark. Pupils immovable. Blindness absolute. Diaphoresis again as the day before; dry cups to temples.

The following day, May 8th, the patient passed more urine. The eyes were the same, yet the arteries were more filled, but did not pulsate on pressure. Dr. W. H. Draper, who was called in consultation, carefully examined the heart and the other organs of the body, but could detect no abnormity. He also thought that an uræmic attack was the most probable diagnosis, in spite of the negative result of the examination of the urine. Salicylate of soda continued.

On the fifth day, May 10th, the patient was somnolent for a few hours, but passed more urine.

On the sixth day his pupils were somewhat narrower. The arteries of the right eye pulsated on pressure, those of the left eye did not. No perception of light. Ordered iodide of potassium 0.60, and calomel 0.005, three times daily. Dr. C. R. Agnew, who was called in consultation, shared our opinion of the probability of an uræmic attack.

May 13th, the discs began to become pale; otherwise there was no change in the condition of the patient. The retinal arteries pulsated readily on pressure; the patient passed urine freely, and felt quite well. Blindness still absolute, and pupils immovable. Treatment: Hypodermic injections of strychnia, electricity, milk punch, generous diet. During the next two weeks the general condition of the patient continued good, the urine was normal in quantity and quality. The optic discs gradually became flat and pale; the arteries were better filled, and pulsated readily on pressure; the veins were normal. Apart from the condition of the disc, nothing unusual in respect of the fundus.

On June 1st the patient alleged that he saw light for a short time; the same repeatedly during the next weeks, but on examination I was never able to verify it. The optic discs gradually assumed the aspect of plain atrophy.

On June 29th, fifty-five days after the onset of the disease, the patient was examined, in consultation, by Dr. A. L. Loomis. He stated that he still saw glimpses of light occasionally, and had some tingling and numbness in the left hand and leg. Dr. Loomis thought that there must be some cerebro-spinal lesion, which later would come out more distinctly. Large doses of iodide of potassium were ordered.

On September 25th, 1883, I saw the patient in consultation with Dr. Janeway and Dr. Higgins, the latter having had charge of the patient for the preceding five weeks. I still found the pupils immovable, no perception of light, and the optic discs perfectly atroptic. A definite diagnosis was not arrived at.

Since that time Dr. Higgins has treated the patient with mercurials, salivated him repeatedly, used iodide of potassium, and blisters behind the ears.

Not having heard anything of the patient for months, I was anxious to know how he had been, and asked for the permission to examine him again, which was granted, under the condition that I used neither the ophthalmoscope nor a light to test the sight. The patient's brother, a very intelligent and sensible man, told me that the patient had felt well, went daily to his place of business, could not walk alone, but could see and recognize objects which were in a certain direction before the right eye, better when they were far off than near by. The left eye was completely blind.

When I visited the patient, on July 10, 1884, I could verify these statements. I found him somewhat emaciated, otherwise healthy and strong. No mental or bodily disturbance; in particular, no abnormity of sensibility or mobility; his senses, except that of sight, were normal. His pupils were large and immovable. In the left eye he had no perception of light: with the right he could not tell where the window was, but when his face was turned towards it, he stated correctly and without fail, when the right eye was shaded or left

free. Objects held in a certain position, on the nasal side near the point of fixation, and no nearer than two feet from his eye, he made out distinctly; for instance, he recognized the figures on playing-cards correctly, counted the number of black spades, or red hearts, without a mistake, and read numbers of the size of Sn. L. at a distance of two feet. He could also distinguish colored figures from black, but could not recognize the colors. The return of sight, he stated, had begun about five months previously, that is ten months after the onset of the blindness.

CASE II.—Caroline L., aged eleven years six months, a healthy-looking girl, was brought to my office on April 1, 1884, by her father, who gave me the following history. She had always been well. During the last five or six days she had several times had temporary obscurations of her visual field. Three days ago she fell down with a baby which she had on her arm. Neither the baby nor she was injured, yet she had a great fright, and, for a few minutes, everything around her appeared dark. Two days ago, in the forenoon, by spells it seemed to be as dark to her as if it were night. At 3 P.M. the left eye had become blind. She went to bed in the evening, slept well, and when she awoke the next morning she was still totally blind in the left eye, and with the right eye she could see only the objects in the lower part of her visual field. Towards noon the right eye also had become totally blind. Early this morning she could see a little with the right eye.

At 9.15 A.M. I found both pupils of medium size, immovable. S. = O. in each eye. Media clear. Both discs swollen, margins ill defined, arteries small, veins large, dark, easily emptied by external pressure, which caused the arteries of the disc to pulsate. Outward appearance, tension, mobility and sensibility normal. Urine normal in quantity and chemical composition, as examined by her physician, Dr. Seybolt. Spec. gravity 1020. No headache nor any other morbid symptom on the part of the brain or any organ of the body.

I advised the father to take her to the New York Ophthalmic and Aural Institute, where I at once put her to bed, and made her perspire profusely by the administration of salicylate

of soda, 2.40 grms. in the course of an hour. Besides that I ordered 0.01 of calomel every hour.

The next day, April 2d, her condition was unchanged. She had had excessive diarrhœa, about twenty-four stools in twenty-four hours. She felt somewhat exhausted, but otherwise well. She had no perception of light, the pupils did not react, and the discs were choked as the day before. Calomel discontinued. Diaphoresis repeated.

April 3d.—She perceives the light faintly, and the pupils move sluggishly but distinctly. Interior of eyes unchanged.

April 4th.—Perception of light and mobility of pupils increased.

April 5th.—Counts fingers at the distance of a foot.

April 7th.—Counts fingers at several feet; field of vision of normal extent. Pupils responsive.

Diaphoresis every day, and calomel 0.005 three times daily. One or several stools daily. Optic disc less swollen.

April 10th.—S. $\frac{20}{200}$. Pupils active and of normal size.

April 13th.—Optic neuritis greatly improved, discs somewhat pale, outlines distinct, veins large and somewhat tortuous.

April 17th.—Improvement continues. No pain anywhere. Has been kept in bed all the time.

April 23d.—Vision steadily improving. Optic discs clearly defined, swelling disappeared.

April 28th.—Completely recovered. V. R. $\frac{20}{30}$ —, L. $\frac{20}{30}$. Discharged May 1st.

Ten days later, V. $\frac{20}{20}$ in each eye, F. and accommodation normal. Optic discs pale, atrophic looking.

When last seen, at the end of June, she was completely well, her sight as good as ever, and aside from the distinct atrophic appearance of the optic discs, nothing abnormal could be detected in either eye.

DISCUSSION.

DR. KIPP.—I have been taught to attribute optic neuritis to a cerebral lesion, but I have seen cases in which atrophy followed optic neuritis, where the patient lived for many years without showing the slightest cerebral disturbance. I have in

mind a case which I saw fifteen years ago. There was choked disc, but no cerebral disease could be discovered. There were symptoms of mental disturbance, but the man recovered health, although he has been blind ever since. As far as I know, disease of the brain, if sufficiently severe to cause such lesions, is rarely cured.

It is also supposed that the optic neuritis is double in cases in which it is caused by brain disease. I have lately seen a case which contradicts this theory. A young man in robust health, while working in a factory, one afternoon fell in a fit. When he came out of the fit, he was blind in one eye. Examination showed a marked choked disc in that eye. The other eye was healthy.

In young girls with amenorrhœa, I have seen sudden blindness with choked disc, the patients remaining blind, but showing no evidence of cerebral disease.

DR. KNAPP.—We know that there may be a great deal of cerebral disease in the frontal lobes without producing any marked symptoms. A large abscess, for instance, may be there for a long time without symptoms of any disease; it may even lead to death without being suspected. I have treated and described a marked case of this kind with Dr. Seguin. An abscess of the frontal lobe, propagated from the frontal sinus, was found at the autopsy. There had been no functional disturbance.

In regard to Dr. Kipp's case, it seems very much like a case of lesion of the optic nerve.

DR. KIPP.—I have watched a case for fifteen years. The man is still in good health. It is not likely that disease of the frontal lobe should exist for so long a time without producing some symptoms.

DR. ANDREWS.—I should like to ask Dr. Knapp whether he attributed the neuritis in the second case to the pressure of some growth on the cavernous sinus, and whether there were any evidences of obstruction, such as swelling of the lids, etc.?

DR. KNAPP.—None whatever. I only mentioned this as one of the causes of pressure. I did not attribute the trouble to it.

DR. HARLAN.—I have examined the inmates of the Pennsylvania Institute for the Blind and have found a number of cases of blindness with atrophy of the optic nerve, and yet the subjects were in good health. In most of these cases there had been cerebral symptoms at the time of the attack.

DR. HOWE.—I would ask Dr. Knapp why it is that, if these little islets of sound tissue remain, the patient cannot point to the objects at once?

DR. KNAPP.—The field seems to be very small, and owing to the patient's imperfect vision, it may be very difficult for him and the physician to find the islet. It is only when a well illuminated object comes into this islet that the patient is able to see it.

DR. POOLEY.—I have observed in quinine amaurosis that the patients could see better at a distance than near.

DR. WADSWORTH.—There is a condition in which we not infrequently meet with something analogous to the small islet mentioned by Dr. Knapp, in retino-choroiditis, where there are often a number of such islets, and where the patient must move the eyes about to get the point with which he sees best. With regard to the question of cerebral disease sometimes existing without marked symptoms, I should certainly agree with Dr. Knapp. I have seen cases in which the cerebral symptoms were limited mainly to slight headache and optic neuritis, and in which the patient has recovered and continued well for a series of years, but with permanent defect of vision. In many such cases I believe there is a meningitis, which later definitely subsides.

DR. KNAPP.—A child of three years of age was brought to me with strabismus. She moved the eyes tolerably well, but when I examined them with the ophthalmoscope, I found double optic neuritis. I found paresis of the external rectus muscle, which had existed for five or six months. By the way, I never operate for strabismus without examining the eyes with the ophthalmoscope, especially the region of the yellow spot.

DR. ALT.—Dr. Knapp stated that grave lesions may exist in the anterior lobes of the brain without any visible symptoms. That such grave lesions may for a long time exist in other parts of the central nervous apparatus, without being recognized, is shown by the following case, which I had the opportunity of examining. A girl of eleven years of age had been complaining of slight headache for a good while, and a diagnosis of malaria had been made. One day it was found that she could not see as well as usual, and, on examination, I found choked discs. There was neuro-retinitis with large hemorrhages in both eyes. I thought that the diagnosis was either chronic cerebro-spinal meningitis or tumor; and from the symptoms I thought that the chances were in favor of a tumor. In the following month, tenderness over the spine developed. The child got worse, and soon there was paralysis of the lower extremities and of the bladder. Large doses of iodide of potassium were given, and other alteratives were

used. The child gradually recovered, and is now in perfect health. There is total atrophy of both optic nerves. In this case the symptoms pointing to a grave disease of the brain were not marked enough for diagnosis for a period of several months.

DR. KIPP.—This is a subject in which I am much interested, and I wish to put myself rightly on record. I do not mean to say that cerebral disease does not cause optic neuritis, I am sure that it often does.

HEREDITARY ATROPHY OF THE OPTIC NERVES.

BY W. F. NORRIS, M.D.,
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SINCE I presented to the Society, in 1881, a paper describing the history of a family in which Atrophy of the Optic Nerves was hereditary, and of which two members submitted themselves to me for examination, I have again encountered another group of individuals exhibiting this remarkable affection: a family of seven children, all of whom, as well as their parents, I had an opportunity of carefully examining. Every child was affected, while the parents had perfectly healthy eyes. According to their intelligent account of the affection, it extended back on the mother's side; the disease attacking the great-grandmother, a granduncle, two uncles and several cousins. It is unusual to have an opportunity to study such a group of cases at various ages and in various stages of the disease, thus enabling us better to appreciate the progress of the malady. It is well known amongst breeders of animals that the phenomenon of atavism, or the transmission of qualities of a progenitor which first develop in the second generation, is frequent. We, as students of diseases of the eyes, occasionally have an opportunity of witnessing the same law in the inheritance of perverted nutrition of the tissues of these organs. Our most frequent opportunity of studying transmitted disease is, however, undoubtedly where the transmission is direct from parent to offspring, as in the case of that